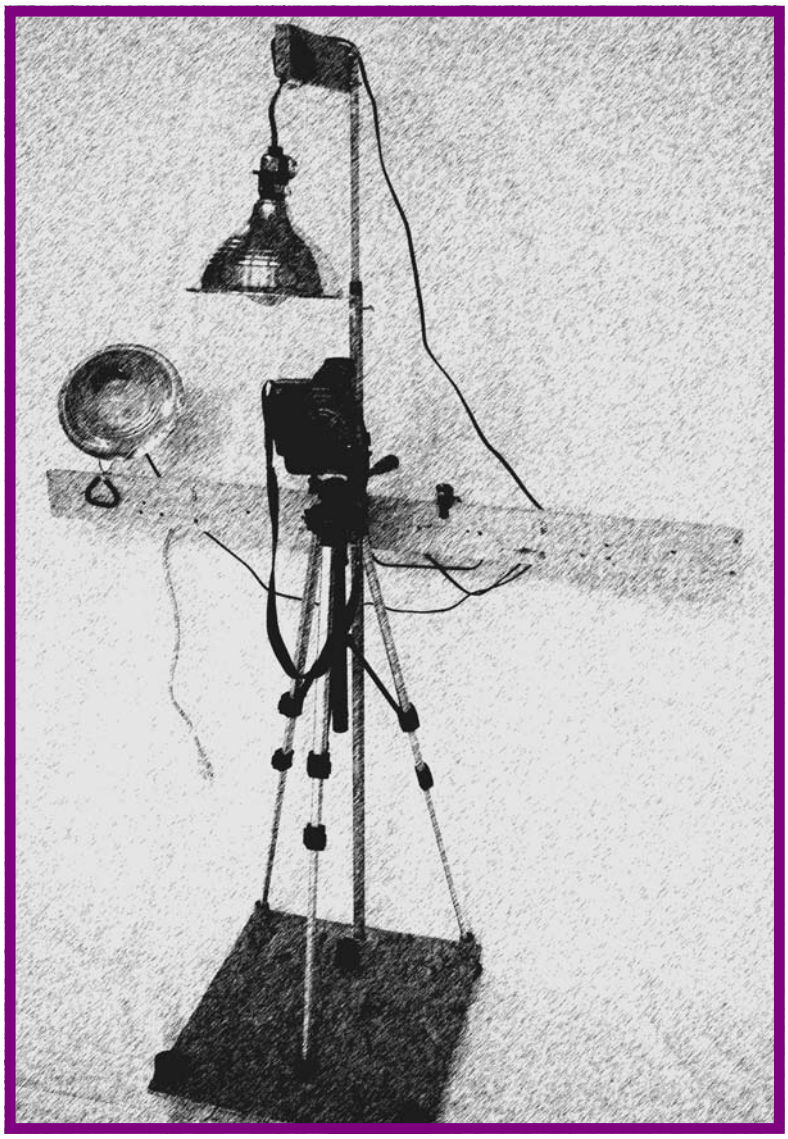
YOUR OWN EASY MODEL PHOTO STUDIO



How to take the kind of model photographs that can be published, that you're proud to show to friends. What to look for in a camera, and how to build a model photography "studio" to enable professional quality results.

YOUR OWN EASY MODEL PHOTOGRAPHY STUDIO

Did you ever have the impulse to write an article for the model railroad press, but got intimidated by the photography requirements? Or just get frustrated trying to get good pictures of your modeling efforts? I did, until I finally took the bull by the horns, and decided to explore how hard it would really be to take the kinds of pictures the press seems to require, or that I wouldn't be embarrassed to show at the local meet.

First of all, let me be clear: I'll deal with digital photography in this article, since that seems to be the wave of the future, and other articles have been written about conventional film photography. Many of the magazines say they still prefer slide transparencies to digital photographs, but it's getting hard to even find slide film any more. And besides, its so much easier to see what you're doing with digital.

The article will address two main areas – what kind of camera you'll need, and how to put together your own model photography "studio."

The Camera

Most of the magazines want at least six-megapixel shots. That's easy and cheap enough to come by these days. Many point and shoot digital cameras handle six or more megapixels. The magazine editors have their reasons for wanting the high resolutions, primary among them the need in lots of cases to crop the photo, because the picture wasn't properly framed when it was shot, or to emphasize a particular area of the subject.

The next big camera criterion to meet is to be able to get a good depth of field, which means that the model is in focus from front to back, rather than being fuzzy anywhere. Since our models are small, we need to get up close to get the level of detail needed to show the model to best advantage, and getting close automatically means a smaller depth of field. To compensate, the camera needs a lens that will maximize depth of field, which in photography talk means one that can be "stopped down," that can accommodate a small aperture, which perversely means a big number for the aperture, around 22 or higher. Most camera specs talk about the other end of their aperture range, down in the low single digits, which accom-

modate taking pictures of movement without blurring. So you really have to dig to find the minimum aperture specification we're looking for. And it will pretty much rule out the cheaper point and shoot cameras, leaving you in DSLR (digital single lens reflex) land, a lot more expensive, although you can get a new close-out 6-megapixel DSLR for about $600 these days, less if you want to visit the used camera market. I'd recommend going higher if you can, to avoid obsolescence a little longer.

That aperture requirement we talked about to get good depth of field has a down side: when you take pictures with high depth of field, the camera shutter stays open a long time, to let in more light through the aperture, to compensate for the fact that a 'stopped down' aperture (small lens opening) doesn't let much light through. That means two things: first, the camera must be held absolutely steady to prevent a blurred shot if the camera should move, and second, we need lots of light on the subject. It can help to use a remote shutter release to help stop camera movement as the picture is snapped, or to use the timer if the camera has that feature. Going beyond that brings us to the need for a 'studio' *(Picture 1)*, the equipment to hold the camera steady, adjust its position, and provide lots of light.

You'll also need a way to get the pictures distributed or printed, so you'll need to interface to a computer. Many DSLRs come with a computer interface cable, and some software.

The Studio

Well, 'studio' may be aggrandizing what we can put together cheaply and easily, but we can build something that works well for not a lot of money (a little under $100.00, or less if you have some of the materials already or find them in the sale bin at the hardware store or home improvement center.) The most expensive item will be a tripod, but you can get a cheap one at Wal-Mart or similar outlets for about $30.00. It will have extendable legs, and include the ability to raise and lower the camera with a crank, and to rotate it in three dimensions, locking all settings for stability. The rest of the studio will consist of items you can get at a home improvement, hardware or camera store, and a couple of odds and ends you may have in your scrap bin.

GETTING STARTED

To start, we need a Base *(Picture 2)*, for which we'll use an approximately 18-inch square of half-inch to three-quarter-inch plywood or particle board, to which we'll attach a screw-on furniture Caster *(Picture 3)* at each corner on one side, and a one-half-inch galvanized pipe Flange *(Picture 4)* on the other side, centered along one edge. Use nuts and bolts, with washers under the nuts, rather than screws, to secure the Flange to the Base.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MASTS

Into the Flange, screw a threaded one-half-inch inside diameter galvanized pipe *(Pictures 4 & 5)* about four feet long. This will be the Stationary Mast, supporting the other equipment. Put a four-foot length of half-inch outside diameter plastic pipe (or a wooden dowel) *(Pictures 6 and 7)* into the galvanized pipe – this will be the Extendable Mast. Using two one-inch U-bolts and four wing nuts, attach a twelve inch long piece of one by three lumber to the top of the Extendable Mast, making the Top Arm *(Pictures 7 & 8)*. Drill and tap a hole for a thumb screw, about two inches down from the top of the Stationary Mast; or just drill holes every six inches in the Extendable Mast, and use a pin through the desired hole; the pin or the thumb screw is used to hold the Extendable Mast in the desired position *(Picture 6)*.


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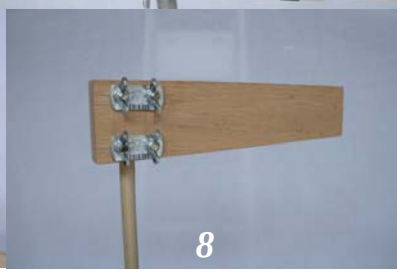
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CROSS HANGER

Using two one-and-one-half-inch U-bolts, attach a four foot length of one by four lumber to the Stationary Mast, about six inches down from the top. This is the Cross Hanger, used as a convenient place to clamp the lights, to hang the light cords out of the way, etc. The U-bolts should pass through the board along its edges, so there is room to attach a switched terminal strip between the top and bottom U-bolts, using

small wood screws to mount the terminal strip. *(Picture 6.)* As an option, to make it easier to raise and lower the Cross Hanger, you can use a pair of tee-nuts (on the Stationary Mast side of the Cross Hanger) and thumb screws (on the other side) to increase or decrease the tension between the Cross Hanger and the Stationary Mast. *(Picture 9).* In that case, leave the U-bolt nuts just tight enough to allow the Cross Hanger to slide when the thumb screws are loosened. About one foot from each end of the Cross Hanger, attach a J-bolt, using a standard nut on the J side, and a wing nut on the straight side. These serve as hangers for the cords, to keep them out of the way. (You could use cup hooks for this instead.)


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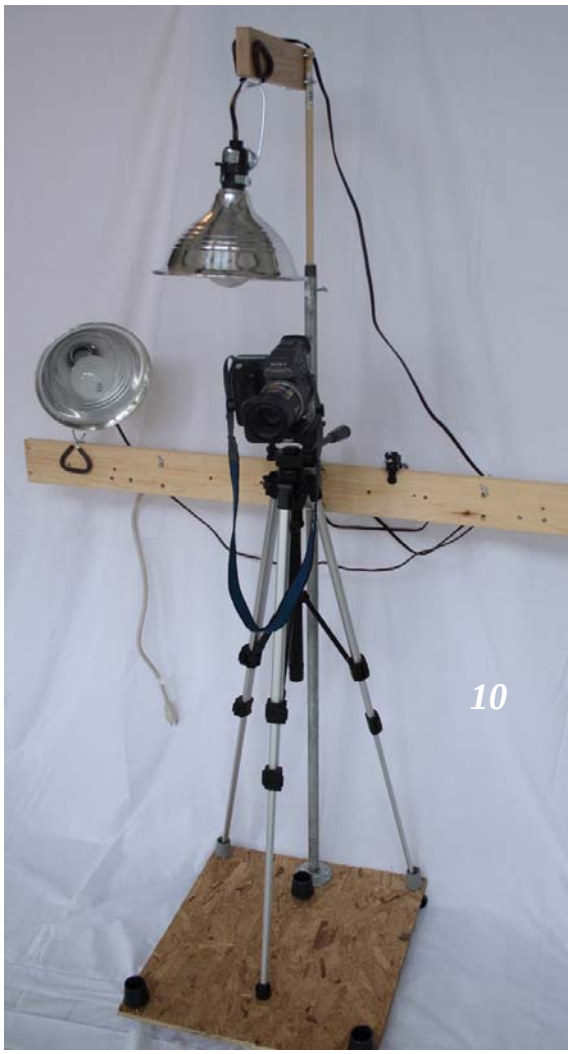
TRIPOD

Place the tripod on the base, with its legs spread enough to reach close to the edge of the base, and mark the legs' positions. Remove the tripod, and use half-inch wood screws to affix three rubber crutch tips to the base, so the tripod legs will fit in them, and not move around. If desired, place two sets of crutch tips, to allow placing the tripod in more than one position. Place the tripod in the crutch tips, and extend its legs to a height you like. *(Pictures 2 & 10)* As a cheaper alternative to the tripod, you can get a flexible camera mount at the camera store, which screws to the camera and screw-clamps to the Cross Hanger, for about $10.00. You might even want one of these in addition to the tripod. Make two or three photo flood lights, by purchasing that number of cheap dish-type clamp-on trouble lights at the hardware or home improvement store, and the bulbs from a camera shop (suggestion: 500 watt, 5000K bulbs), and arrange them, one on the Top Arm and the other one or two on the Cross Arm. *(Pictures 7 & 10.)*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Setting Up

That's it for construction. (But if you're picky, you can paint it.) Roll the studio up next to your workbench, table, desk or whatever when you're ready to shoot. Clamp a piece of white poster board flat to the front edge of the table, desk, bench, etc., bend it up vertical at the back and prop it up with something, so there's a round, horizonless transition between the horizontal and vertical. Place the object to be photographed on the poster board, turn on the flood lights and shoot away. *(Picture 11)*

When you're through, disassembly and storage is tool-less and easy. The tripod comes right off and folds up, the Extendable Mast slides into the Stationary Mast, and the Stationary Mast unscrews from the Base, and everything becomes two-dimensional and fits into a four foot square space, or less if you loosen and slide the Cross Hanger off the Stationary Mast.

Going Further

When taking pictures of your layout or diorama instead of individual models, just roll the studio up beside the scene you want to shoot. You may want to make a longer Top Arm for this kind of shot, to reduce or eliminate shadows on the backdrop. Refer to your camera manual, photography books or magazines or internet sites for tips on how to set up your camera to shoot the kinds of pictures that will be sure to get you published, or that you'll be proud to show even if you have no interest in publishing them. Some camera manufacturers have great internet sites for getting the best from their cameras. You'll want to learn about bracketing shots, cropping, white balance, editing the photos on a computer and more, but all in good time. You've got what it takes for good photography right now.

Good luck, now that you're a 'professional!'

BILL OF MATERIALS

Description	Source	Qty	Price*	Total
Tripod	Discount Store	1	30.00	30.00
Wood Base: 18”x18”x.5”	Home Impr. Store	1	1.50	1.50
Screw-on Casters	Home Impr. Store	4	2.00	8.00
Wood Top Arm: 1”x3”x12”	Home Impr. Store	1	.50	.50
Wood Cross Hanger: 1”x4”x48”	Home Impr. Store	1	1.50	1.50
Stationary Mast: ½”I.D. Galvanized Pipe 4’ long	Home Impr. Store	1	2.00	2.00
Flange: for ½” pipe	Home Impr. Store	1	4.00	4.00
½” O.D. Plastic Pipe or Wood Dowel, 4’ long	Home Impr. Store	1	1.00	1.00
8 ½” Clamp-on Lamp	Home Impr. Store	2	7.00	14.00
500W Photo Flood	Camera Store	2	7.00	14.00
Terminal Strip	Home Impr. Store	1	4.00	4.00
U-bolt, 1 ½”	Home Impr. Store	2	1.50	3.00
U-bolt, 1”	Home Impr. Store	4	1.50	6.00
J-bolt, ½”	Home Impr. Store	2	.75	1.50
Wing Nuts	Home Impr. Store	8	.25	2.00
Thumb screw	Home Impr. Store	1	.50	.50
White Poster Board	Discount Store	1	.50	.50
1 ½” Spring Clamp for poster board	Home Impr. Store	1	2.00	2.00
Crutch Tips	Home Impr. Store	3-pak	2.00	2.00
TOTAL				**98.00**

*Approximate, rounded prices.

Tools Bill of Material

You may need a hand or electric saw to cut the lumber, but you can probably find it already cut or get it cut at a home improvement center. Other tools you’ll need:

Electric Drill and drill bits ~ Tap (optional) ~ Pliers ~

Ruler ~ Square ~ Tape Measure ~ Pencil